TECHNICAL BOOK REVIEW INDEX

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JULIA WALLACE MARTIN, *Editor*

Volume 20 **December, 1954** **Number 10**

THE purpose of the Technical Book Review Index is primarily to identify reviews in current scientific, technical, and trade journals; secondarily, when feasible, to quote from these reviews. In the evaluation of scientific and technical books, reviews constitute the best existing source of information. The service of the Technical Book Review Index is thus in the field of evaluation, rather than in competition with existing publications which announce new and forthcoming books, list books by subjects, or supply bibliographic information. Each quotation immediately follows the name of the journal from which it is taken. Obviously, these brief extracts, detached from the context, must not be accepted as conclusive. Except for the correction of obvious errors, the bibliographic information is as given in the reviews. It is, therefore, in many cases incomplete and in some cases probably inaccurate.

Abbey, Staton.

Book of the Fordson tractor. 132p. 1954. Pitman, London, 7s. 6d. net. (Pitman's tractor handbook series.)

Coke and gas, Sept. 1954, p.342. ⅛ col.

"A practical handbook of essential servicing data and maintenance notes covering both the agricultural and industrial models of the early Fordson, the Fordson Major and also the New Major . . . Use of this handbook should enable the average tractor driver to avoid the majority of troubles often resulting from improper maintenance, and to get the best from his machine."

Alexander, Peter, & **Hudson,** R. F.

Wool; its chemistry and physics. 404p. 1954. Reinhold, New York, $10.

Chemical age, Sept. 18, 1954, p.581. 1¾ col.

"Intended not only for research workers on protein fibres and other branches of protein chemistry but also for the practical worker in industry, so that the accumulated data may be used to assist in the development of new processes. For this reason, throughout the book, general explanations on an elementary level precede the introduction of more advanced concepts. Industrial processes are not described but the practical significance of the physical and chemical aspects is indicated . . . The authors are to be congratulated on a book of value not only to those concerned with wool but all interested in the science of fibres." *W. R. M.*

Alfven, Hannes.

On the origin of the solar system. 194p. 1954. Oxford, New York, $4.80. (International series of monographs on physics.)

Philosophical magazine, Sept. 1954, p.996. ⅝ p.

"Professor Alfven presents his theory of the origin of the solar system . . . The book is greatly to be welcomed as an addition to the growing literature on the problem. As a clear and detailed account of an original and highly significant approach it is very valuable." *H. B.*

American Institute of Mining and Metallurgical Engineers — Institute of Metals division.

Dislocations in metals; edited by Morris Cohen. 200p. 1954. The Institute, 29 W. 39th St., New York, $5.

Journal of the Institute of Metals, Sept. 1954, *metallurgical abstracts,* p.94. 1 col.

"The book should help to convince the metallurgist that dislocation ideas are essential for even the most elementary understanding of plastic processes; it shows at the same time that even the acknowledged experts may not agree which detailed processes are predominant in the complex situations of practical metallurgy. In this situation it must surely be agreed that the greater the number of practical-minded men who read a book of this kind and think in terms of dislocations, the sooner the complexities of practical situations will yield to theoretical attack." *W. M. Lomer.*

Andrews, W. B.

Response of crops to fertilizers and manures. Ed.2. 463p. The Author, State College, Miss., $4.50.

Soil science, Sept. 1954, p.245. ½ p.

"Present edition brings the data up to date, with special reference to nitrogen fertilizers in general and anhydrous ammonia in particular . . . Book is rich in data from the several agricultural experiment stations. A summary of the author's conclusions is presented at the end of each chapter . . . Well illustrated, and useful references are appended to each chapter. The author is to be congratulated on a piece of work well done."

Australia — Council for Scientific and Industrial Research — Radiophysics laboratory staff.

Textbook of radar. Ed.2; edited by E. G. Bowen. 617p. 1954. Cambridge, New York, $8.50.

Radio-electronics, Oct. 1954, p.144. ⅛ col.

"Basic principles of radar, thoroughly described in the first 16 chapters, differ very little from the first edition . . . Aimed at graduate and research students and engineers engaged in research and development in industry." *J. K.*

Wireless engineer, Oct. 1954, p.284. 7 l.

"Only minor alterations have been made in the first sixteen chapters. The final four chapters of the original, dealing with the practical applications of radar, have been rewritten as three chapters which now cover Military Radar Systems, Civil Applications of Radar and Applications of Radar to Physical Science."

Ballard, Stanley S., and others.

Physics principles. 743p. 1954. Van Nostrand, New York, $7.50.

Military engineer, Nov.-Dec. 1954, p.477. 6 l.

"This introductory textbook was written especially for students majoring in physical science or engineering. The treatment is based on the British gravitational system, the cgs system and the mks system."

Scientific monthly, Oct. 1954, p.255. 1¼ col.

"A glance through this book gives this impression: it is a textbook of physics. There is good writing and sound experience backing the claims the authors make in their preface. The authors move immediately into the subject matter without apology and develop the concepts needed as they proceed, without forgetting that the beginning student has a lot to learn. There is no doubt at all that students who are unfamiliar with the concepts of the calculus will be in trouble almost from the beginning, for the text is designed to present physics with the elegance and effectiveness possible only to those who have studied the calculus or are at least studying it concurrently . . . Not a survey, and should not be used by teachers looking for a sop for students wanting to study something easy." *R. F. Paton.*

Barter, E. G.

Relativity and reality; a re-interpretation of anomalies appearing in the theories of relativity. 131p. 1953. Philosophical Library, New York, $4.75.

Jet propulsion, Sept.-Oct. 1954, p.338. ¼ col.

"Author pleads sincerely but unconvincingly for a return to absolute space and time and classical electromagnetic theory . . . His attitudes, particularly toward reality, with which he is much concerned, are the very antithesis of logical positivism." *M. D. Kruskal.*

Bogert, L. Jean.

Nutrition and physical fitness. Ed.6. 664p. 1954. Saunders, Philadelphia, $4.50.

Journal of health, physical education, recreation, Oct. 1954, p.41. 9 l.

"Presents a wide range of facts about nutrition in language understandable to those with no previous knowledge of chemistry and points out how such knowledge may be utilized for promoting a high degree of physical fitness. Each revision of this textbook reflects changing educational practices."

Borror, Donald J., & **DeLong,** D. M.

Introduction to the study of insects. 1030p. 1954. Rinehart, New York, $9.

Audubon magazine, Sept.-Oct. 1954, p.233. ⅛ col.

"This college textbook combines insect study and identification. There are chapters on anatomy, development and metamorphosis, classification, nomenclature and identification, economic value, insecticides, and collecting, also a glossary, an index, and bibliographies . . . Greatest part . . . is devoted to descriptions, and the accompanying black-and-white illustrations are unusually fine."

Soil science, Nov. 1954, p.406. ⅜ p.

"The 34 chapters begin with the ways of insects and their anatomy, development, classification, and identification, and end with their relationship to man, methods of control, means of collecting and preserving, and school projects in insect study. The chapters in between have to do with the many orders of insects . . . Merits wide use."

Bowen, E. G. See **Australia—Council for Scientific and Industrial Research** —Radiophysics laboratory staff.

Brook Motors, Limited.

Alternating current motors. 271p. 1954. The Author, Huddersfield, England, 15s.

Industrial heating engineer, Sept. 1954, p.281. ⅜ col.

"Devoted to the construction, application, and maintenance of A. C. motors . . . Intended mainly for the designer of all types of machinery requiring electric drive and the plant maintenance engineer, but it should also be of considerable value as a general work of reference . . . Well illustrated . . . Data is [sic] presented in a clear and concise manner, and wherever possible is of an impartial nature, although, of course, the illustrations are of the Company's own motors."

Brownrigg, William.

Human enterprise process and its administration. 232p. 1954. Univ. of Alabama Press, Drawer 2877, University, Ala., $4.50.

Advanced management, Sept. 1954, p.33. ⅜ col.

"Executives, administrators, and students of administration and management will find in this new book a sharp analysis of their work, along with new ways of attacking problems, and new tools for improving their and their companies' efficiency . . . Analyzes the dynamics of the total process and the separate processes of policy-making, of management, and that vast area of consumption of goods and services, and lists twenty steps for the successful conduct of any enterprise. A very thorough work."

Burgess, Eric.
Rocket propulsion. Ed.2. 235p. 1954. Chapman & H., London, 21s.

Aeroplane, Oct. 8, 1954, p.559. ½ col.

"After examining the new edition carefully, one is left with the impression that the author has only a superficial acquaintance with the theory of mechanics, thermodynamics and rocket propulsion . . . It is quite impossible to endorse the statement on the dust cover that the book answers the demand for accurate information in a useful form." *A. D. B.*

Electronic engineering, Oct. 1954, p.462. ½ col.

"It would seem that the new version has been printed largely for the purpose of correcting the many errors which marred the first edition . . . It seems a pity that the revision has not been more widespread . . . In defence of the author, it must be remembered that he has been unable, for obvious reasons, to draw upon the great body of material under security classification." *A. E. Maine.*

Carr, E. See **Molloy,** Edward, & **Carr,** E., ed.

Childers, Norman F., ed.
Fruit nutrition. 906p. 1954. Horticultural Publications, Rutgers Univ., New Brunswick, N. J., $10.

Soil science, Sept. 1954, p.243. ⅔ p.

"Purpose . . . is to review the nutrition of the more important fruit plants, including tree and bush fruits and nuts and strawberries. Twenty-eight well-known research specialists participated in this project, and a great deal of constructive effort has gone into it . . . Included is an especially fine photographic section . . . showing deficiency and toxicity symptoms for boron, calcium, copper, iron, manganese, molybdenum, potassium, sulfur and zinc, and injury from excess chlorides, arsenic, soil acidity, and soil compaction . . . Work of some 1000 authors is reviewed, a long list of references being appended to each chapter. Every one who is concerned in any capacity with fruits will want a copy of this exhaustive treatise for ready reference."

Clement, William E.
Selling electric service 1879-1954. 72p. Electrical Assoc. of New Orleans, 921 Union St., New Orleans, La., $1.

Electrical South, Sept. 1954, p.68. ⅓ col.

"William E. Clement, an old-timer in the electrical business, has written this book in such a manner to give a picture of the early struggle of the power companies to bring electric service to the public and to overcome the resistance to its use for illumination, home comfort appliances, and as a source of power . . . Salesmen and sales managers will find this book interesting and inspiring."

Corley, H. M., ed.
Successful commercial chemical development. 374p. 1954. Wiley, New York, $7.75.

Advertising agency, Oct. 1954, p.148. ⅙ col.

"While a large part of this book deals with the technical and organizational side of the development of a new chemical product, there is much meat in this section for those who wish to market such a product, as these processes are to a large extent intermingled."

Chemist, Oct. 1954, p.412. 1 col.

"To call a book monumental labels it as static; this one is not that. It is a remarkable compilation of the aggressive thinking and the experiences of more than a hundred . . . leaders and pioneers in the commercial development of chemical products . . . It is a valuable book; don't miss it." *D. H. Killeffer.*

Modern plastics, Nov. 1954, p.180. ⅔ col.

"Sponsored by the Commercial Chemical Development Association. After reviewing the growth of the chemical industry in general and the role [sic] played therein by organized chemical development, the book describes each step involved in the evaluation and development of a new chemical."

Petroleum refiner, Oct. 1954, p.162. ⅔ col.

"Discusses in detail each step in the development of a product, from the laboratory to commercial marketing, and outlines some of the career opportunities in this branch of the chemical industry . . . Besides serving as a handbook for the chemical industry, the book may also be useful to all people interested in the development of new products in other fields."

Printers' ink, Oct. 22, 1954, p.88. ¼ col.

"As an intensive study of new products in a highly technical and increasingly important branch of industry, this is a very significant and valuable book."

SPE journal, Nov. 1954, p.4, 6. ⅔ col.

"Main problem faced by any manufacturer is the development and effective marketing of new products. While this book is aimed at chemical producers, it applies with full force to all manufacturers . . . The book is more than usually lucid, detailed and interesting to read. It is heartily recommended for all those men who are responsible to their companies for the development of new products and their effective presentation to the market."

Coulson, A. W. F., ed.
Manual of cotton spinning. v.1: Raw cotton production and marketing. 222p. 1954. Textile Inst., Manchester, England, 12s. 6d.

Chemical age, Sept. 11, 1954, p.537. ¼ col.

"This, the first volume of a series intended to provide a comprehensive survey of cotton spinning, is primarily intended for students seeking technological and scientific information . . . Consists of three sections, each contributed by an expert . . . Provides a great deal of information useful to both the student and the practising technologist." *W. R. M.*

Cramer, Friedrich.
Paper chromatography; translated from the German by L. Richards. Ed.2, revised and enlarged. 124p. 1954. St. Martins, New York, $5.

Journal of the Society of Dyers and Colourists, Sept. 1954, p.416. 1½ col.

"In writing his book Dr. Cramer has realised the enormous task which faces anyone who attempts to give a comprehensive account of all this work, and has restricted himself to the production of a laboratory manual on paper chromatography . . . As such this book is first class and can be thoroughly recommended to

anyone who uses paper chromatography in his research or is contemplating doing so . . . Well indexed and has a large, but by no means exhaustive, bibliography. Unfortunately there are typographical errors . . . The translation is on the whole well done, but retains traces of the original German . . . At a price that is very reasonable by modern standards, it must inevitably find itself on the shelves of all interested in paper chromatography." *A. Robson.*

Crossley, F. R. E.

Dynamics in machines. 463p. 1954. Ronald, New York, $7.

Industrial laboratories, Oct. 1954, p.101. ⅛ col.

"The last 120 pages bear specifically on machinery (flywheels and balancing, flexible machine members, governors). The remainder . . . covers the usual particle and rigid-body dynamics, and elementary vibrations. Many teachers will miss Lagrange's equations, or virtual displacements; others will welcome the correct presentation of the gyrocompass theory; but all will desire this book for its copious and colorful problems."

Midwest engineer, Oct. 1954, p.26. ⅔ col.

"There are two outstanding features in the work which make it superior to many in the field. First, there is a definite smoothness, a building upon that which has already been studied, which gives the student credit for the knowledge he already has, and offers him an even-flowing pattern leading to a more advanced use of his knowledge of the field. The second outstanding feature stems from the first: the text is an efficient bridge between the theoretical and the practical—it teaches the student to apply the basic theoretical formulae and set problems to existant practical situations." *A. D. C.*

Davidson, Stanley J., and others.

(R)Evolution in the printing industry. 88p. Printing Research, P. O. Box 125, Cambridge, Mass., $7.

Inland printer, Oct. 1954, p.57. ¼ col.

"Analyzes such critical problems as labor-management attitudes and the rising costs and narrowing profit margins faced by printers and publishers. The report . . . was prepared after the authors had talked and corresponded with more than 100 publishers, commercial printers, equipment manufacturers, and others in the industry."

Printers' ink, Oct. 15, 1954, p.71. ½ col.

"A sizable . . . and solid piece of work. It has sound criticism of the lack of broad technical research, a good evaluation of major new developments and an indication of what's needed to stimulate progress. The section on new developments occupies nearly 40% of the book . . . Strongly recommended to the advertising man who knows none too much about printing processes."

Printing equipment engineer, Oct. 1954, p.76. 1 col.

"Much of this book's information may be obtained by considerable library search, but it is a rare occurrence to find in a single text scattered data on a complex industry for convenient consumption . . . Divided into three sections as follows: Printing past and present; New developments; and Evaluation and conclusions . . . We label this report required reading for the progressive industry executive."

Dorfman, Ralph I., & **Ungar,** Frank.

Metabolism of steroid hormones. 170p. 1953. Burgess, Minneapolis, $4.

Journal of the American Chemical Society, Sept. 20, 1954, p.4753. ⅝ col.

"Intended to serve as a ready reference for those interested in the metabolism of steroid hormones . . . Essentially a summary of information and not a comprehensive or critical treatment of the subject. Liberal use of tables, charts and graphic formulas, and an adequate index facilitate location of specific information on the source and metabolic transformations of individual hormones . . . Very useful for those interested in steroid hormone metabolism or in the nature of the urinary steroids." *Harold L. Mason.*

Eadie, W. Robert.

Animal control in field, farm and forest. 257p. 1954. Macmillan, New York, $3.75.

Animal kingdom, Sept.-Oct. 1954, p.164. ⅓ col.

"For better understanding of the somewhat enigmatic title . . . the jacket carries a line of explanation: 'A comprehensive practical guide to the control of injurious animals.' If 'animals' is understood to refer to 'mammals,' the nature of the content becomes quite clear. For not only are the predatory species adequately covered but many non-carnivores, such as rodents, rabbits and deer are included . . . Altogether, Dr. Eadie's book seems to be the most comprehensive and useful one so far produced in this prolific field." *L. S. C.*

Fay, John S.

The helicopter and how it flies. 105p. 1954. Pitman, New York, $2.50.

Flight, Sept. 17, 1954, p.466. ⅓ col.

"Mr. Fay (an experienced pilot) has produced a simple and progressive explanation of rotating-wing aerodynamics which is lucid and yet entirely free from formulæ or intimidating figures . . . Simple treatments which are also technically reliable are all too rare; Mr. Fay's book is likely to be an exception proving the rule."

Ferraro, V. C. A.

Electromagnetic theory. 555p. 1954. De Graff, New York, $7.

Radio & television news, radio-electronic engineering section, Oct. 1954, p.28. ⅓ col.

"Purpose . . . is to give an account of the science of electromagnetism from a mathematical point of view. Intended for use by students reading for an Honors degree in mathematics . . . Vector methods have been used throughout, with an introductory chapter on vector analysis covering those portions of the subject needed in electricity . . . Although . . . written primarily for mathematicians, it should also be of use to physicists and electrical engineers."

Frankl, F. I., & **Karpovich,** E. A.

Gas dynamics of thin bodies; translated from the Russian by M. D. Friedman. 175p. 1953. Interscience Publishers, New York, $5.75.

Industrial laboratories, Oct. 1954, p.102. ¼ col.

"A translation . . . of a minor Russian classic. The first chapter contains the usual glorification of Soviet achievements in the field of compressible flow. Settling down to business, the author considers axially symmetric flow in the second chapter, steady motion of a wing in the third, unsteady motion of wings and propellers in the fourth chapter. The last chapter deals with conical flow . . . Required reading for every theoretical aerodynamicist."

Galbraith, M. J. See **Nadelman,** Alfred H., & **Galbraith,** M. J., ed.

Galdston, Iago.

Meaning of social medicine. 137p. 1954. Harvard Univ. Press, Cambridge, Mass., $2.75.

Industrial medicine and surgery, Oct. 1954, p.477. ⅓ col.

"The author, highly critical of the ultimate social and biological effects of curative medicine, advances the argument that 'curative medicine has largely exchanged morbidity for mortality' . . . Suggests a reorientation of medical education to focus the student's attention upon life, health, and the full development of potentialities rather than upon disease, abnormality and death."

Guilford, J. P.

Psychometric methods. Ed.2. 597p. 1954. McGraw, New York, $8.50.

Food engineering, Oct. 1954, p.240. ¼ col.

"Revamped to include new chapters on recent advances in psychometry, this second edition is of great value to the food processor . . . Among new subjects treated are multi-dimensional scaling, objectivity of judgments, and prediction of choice. Emphasis throughout . . . is on unity of all methods. Supplemented with charts and graphs, the book is indexed."

Hamilton, Leicester F., & **Simpson,** S. G.

Calculations of analytical chemistry. Ed.5. 340p. 1954. McGraw, New York, $5.

Analytical chemistry, Oct. 1954, p.38A. ¾ col.

"A valuable aid to the beginning student in quantitative analysis, and a useful reference for those who use analytical methods only occasionally. New material has been added and some sections have been expanded or rewritten . . . In general, there is little to criticize and much to commend in this book. This reviewer recommends the book at the level the authors intended — elementary analytical chemistry." *Villiers W. Meloche.*

Science, Oct. 15, 1954, p.602. 1⅓ col.

"Retains the best features of the previous editions. Through selective editing, rewriting, and additions by the authors, its general usefulness to teachers and to students of elementary analytic chemistry has been significantly improved." *John M. Schempf.*

Harper, James I., ed.

Chemical engineering in practice. 140p. 1953. Reinhold, New York, $3.

Journal of chemical education, Sept. 1954, p.500. ⅞ col.

"Where can this book be used most effectively to show the fields of work into which a chemical engineer can go? A senior seminar course would be ideal; technology or design courses could present this material to show where they fit into the over-all industrial picture; graduate seminars could use it effectively; or it could be used for individual reading. The recent graduate who has entered industry will get a view of the entire employment field from this book. An instructor can use to advantage the examples given in it . . . A worth-while little book that can be used effectively." *Kenneth A. Kobe.*

Harrison, Oval S.

Creative mechanical drawing, basic. 89p. 1954. American Technical Soc., Chicago, $1.75.

South African mining and engineering journal, Sept. 11, 1954, p.57. ¼ col.

"Designed to complement, rather than restrict, the teacher's instructions . . . Standards of modern industrial practice have been considered in selecting the problems. Each one has a purpose, and abstract problems have been cut to a minimum."

Hollaender, Alexander, ed.

Radiation biology. v.1, pts. 1 and 2. 1265p. 1954. McGraw, New York, $17.50.

Journal of the Franklin Institute, Oct. 1954, p.321. 3⅝ col.

"Like its predecessor, Duggar's invaluable two-volume 'Biological Effects of Radiation' that appeared in 1936 and which these volumes are to replace, *Radiation Biology* is again sponsored by the National Research Council but under the editorship of Dr. A. Hollaender . . . It is certain to be a landmark in the field of radiobiology . . . The present volume . . . is broad in scope and parts of it are almost as deeply penetrating as the ionizing radiations in the analysis of radiobiology . . . For the benefit of the reader, each chapter is prefaced by a synoptic outline of the contents and each chapter is concluded by an adequate bibliography. Useful, too, are the name and subject indices. Biologists everywhere who are concerned with high energy radiations will be indebted to all the scientists who contributed to this monumental work and to the editorial skill of Dr. Hollaender. It is the kind of volume that is likely to be found on the bookshelf of most radiobiologists and in libraries throughout the world." *Ralph Wichterman.*

Howes, Paul Griswold.

The giant cactus forest and its world. 258p. 1954. Duell, New York, $7.50.

Natural history, Oct. 1954, p.384. ⅓ col.

"Nowhere else in the world is there anything quite like the Giant Cactus forest of Arizona. From the naturalist's point of view its strange assemblage of plants and animals is unique . . . Not meant for the casual tourist, but for the keen nature lover . . . Written with great charm and interest, as well as accuracy." *Nicholas Guppy.*

Nature magazine, Nov. 1954, p.450. ⅓ col.

"Equally concerned with the birds, mammals, insects, reptiles and plants associated with these great saguaros . . . Dr. Howes was outstandingly equipped for the task he set himself. In that task he has succeeded notably, providing a volume that is both delightful reading and a wide source of information. There are

186 photographs, one color plate, and field sketches and diagrams to round out the story of the saguaro world as he found it."

Huxley, Julian, and others, ed.
Evolution as a process. 367p. 1954. Allen & Unwin, London, 25s. net.

Science progress, Oct. 1954, p.738. ⅔ p.

"Reflects the increasing wealth of data now contributing to our knowledge of evolution. However, these essays cannot be accepted as a complete survey of current thought, since, with the exceptions of Ernst Mayr and Bernhard Rensch, the nineteen contributions all represent work in Great Britain . . . This book emphasises a need for the data accumulating so widely in new fields, many of them more subtle and behaviouristic than before, to be brought together in a modern theory of evolution. Because, by implication, it highlights such a need, this book should be read by all biologists. Nowhere, at present, can such an assortment of material be found in the confines of one book." *G. M. E. M.*

Jaeger, Chester G., & **Bacon,** H. M.
Introductory college mathematics. 382p. 1954. Harper, New York, $4.75.

Science education, Oct. 1954, p.322. 8 l.

"Intended for use in a full year course and by either mathematics majors, or non-science majors. It is assumed that students have completed a year each of high school algebra and geometry . . . Provides a unified treatment of basic topics in algebra, trigonometry, analytic geometry, together with an introduction to the calculus."

Scientific monthly, Oct. 1954, p.260. ¾ col. including another review.

"Follows more nearly the traditional pattern of textbooks in freshman mathematics and should prove a very teachable book." *H. S. Pollard.*

Jones, Elmer W.
General electricity. Ed.3. 120p. 1954. McKnight, Bloomington, Ill., $1.25 unbound.

Electrical South, Oct. 1954, p.97. ⅜ col.

"Written in a simple and direct manner; not technical and not limited to one or two small phases of the subject . . . Also furnishes some insight into electrical occupations and gives a better appreciation of the services rendered by workers in this important field."

Electrical West, Oct. 1954, p.18. ⅛ col.

"An elemental course, the book presents and explains fundamental basic principles of electricity and magnetism; operation, care and upkeep of common devices; ordinary rules of safety . . . References are made to books and pamphlets so further study of each topic can be made if desired."

Judge, Arthur W.
Automobile electrical maintenance. Ed.3. 256p. 1954. Pitman, London, 12s. 6d. net. (Pitman's automobile maintenance series.)

Electrical journal, Oct. 8, 1954, p.1144. ⅛ col.

"The third edition of this comprehensive guide for service engineers and private motorists has an appreciable amount of new material and illustrations added . . . The book is essentially practical and the maintenance hints and fault diagnosis suggestions form a most valuable feature of the work . . . Electrical troubles are said to be those most frequently encountered in automobiles. If every car owner conscientiously followed the precepts given in this book the number of such troubles would be negligible."

Kronig, Ralph, ed.
Textbook of physics; translated from the third Dutch edition. 855p. 1954. Pergamon, London, £3 10s.

Philosophical magazine, Sept. 1954, p.995. ¾ p.

"A co-operative effort by nine authors . . . A great difficulty in a work of this kind is the preservation of some uniformity of treatment and of standard. On the whole, this has been successfully done, although each reader will doubtless pick out his own anomalies . . . The standard is roughly that of a pass degree at an English University, but in many places the book goes a good way beyond this point. To cover so much ground has called for a rather condensed style which in turn means that it is not an easy book to read . . . The most striking feature . . . is its complete divorce from laboratory practice. It is not, in fact, as its title claims, a textbook of Physics, but much more nearly an introduction to Theoretical Physics . . . There is little prospect of it becoming a 'recommended text-book' in English Universities. It should, however, be purchased and carefully studied by all those responsible for University teaching in Physics, and to such it will prove to be a most interesting and stimulating volume." *N. T.*

Lapp, Ralph E., & **Andrews,** H. L.
Nuclear radiation physics. Ed.2. 532p. 1954. Prentice-Hall, New York, $9. (Prentice-Hall physics series.)

Journal of the American Chemical Society, Oct. 5, 1954, p.5008. ½ col.

"The title is . . . no clue to the richness of the material between the covers, barely half the text being devoted to the physics of nuclear radiations . . . Text is interspersed with numerous graphs, tables and photographs, worked-out examples of calculations, and, happily, a considerable number of references to the original literature . . . Will be of use to almost anyone interested in nuclear science . . . Could be employed with profit in a senior-graduate level course in which the instructor was prepared to present additional material on applications and methodology of interest to the particular group provided only an introductory exposition of principles was desired." *Peter E. Yankwich.*

Military engineer, Sept.-Oct. 1954, p.402. ⅛ col.

"Up-to-date knowledge of nuclear structure, radioactivity, isotopes, and other important subjects in this field is provided by two experts on the subject, and the salient facts of nuclear physics are presented. Non-mathematical language characterizes the book."

Leonhardy, Adele.
Introductory college mathematics. 459p. 1954. Wiley, New York, $4.90.

Science education, Oct. 1954, p.321. ¼ col.

"Gives a clear description of the nature of mathematics, the major mathematical concepts, and the important role [sic] played by mathematics in modern civilization. The author intends that use of the book will develop the skills and techniques necessary in a college program of general education and to present mathematics as an area of general education."

Scientific monthly, Oct. 1954, p.260. ¾ col. including another review.

"In my opinion, the author's twofold purpose—to develop for the student the mathematical concepts and techniques needed in a program of general education and to present mathematics itself as one of the areas of general education—has been admirably fulfilled." *H. S. Pollard.*

Lewis, Ian A. D., & **Wells**, F. H.

Millimicrosecond pulse techniques. 310p. 1954. McGraw, New York, $7.50.

British journal of applied physics, Oct. 1954, p.375. ⅜ col.

"The subject-matter . . . will be of use primarily to those already familiar with pulse techniques, but it will also have an appeal to the general physicist and electronic engineer. An excellent balance between theory and practice has been achieved . . . The bibliography and a numerous set of references at the end of the book provide a valuable source of more detailed information on specific subjects." *F. R. Connor.*

Philosophical magazine, Oct. 1954, p.1098. ⅝ p.

"An excellent and up-to-date summary of the techniques of generation, amplification and oscillography of these short pulses, with sufficient detailed practical information to make it immediately useful in the building of apparatus and sufficient basic theory to make it, one may expect, a useful reference book for some time to come." *D. F. G.*

Product engineering, Oct. 1954, p.328. ⅝ col.

"Theoretical principles and practical techniques are combined in this text which includes the most up-to-date material heretofore available only in widely scattered periodicals. A discussion of the simple Laplace transform treatment of a transmission line, an account of tapered line transformers, and some heretofore unpublished circuits used in nuclear physics are covered in detail. A short Bibliography and a comprehensive list of references complete the volume."

Radio & television news, radio-electronic engineering section, Nov. 1954, p.27. ⅓ col.

"The bulk of the work is devoted to a consideration of basic circuit elements and pieces of equipment of universal application. Details of specific applications, mostly in the field of nuclear physics instrumentation, fill the last two chapters."

Lewis, Warren K., and others.

Industrial stoichiometry; chemical calculations of manufacturing processes. Ed.2. 429p. 1954. McGraw, New York, $7.50.

Journal of chemical education, Nov. 1954, p.612. 1 col.

"Changes . . . have been numerous, and considerable expansion has occurred . . . There also has been an expansion in the viewpoint, for now the authors consider not only material and heat balances, as they did previously, but also equilibrium relationships and the rate at which the change occurs . . . It probably won't be the introduction to chemical engineering that students had for so many years. Unfortunately, 'bigger and more coverage' doesn't mean a more lucid presentation of the fundamentals that a sophomore can grasp and apply." *Kenneth A. Kobe.*

Journal of the Franklin Institute, Oct. 1954, p.325. 1⅝ col.

"Comparison with the first edition shows that the new volume contains three new chapters and that the old chapters were thoroughly revised in keeping with new developments . . . The volume intends to provide the student of inorganic industrial stoichiometry with a variety of techniques applicable to process analyses. This aim is accomplished by a careful analysis of seventy-two 'Illustrations' . . . Both illustrations and problems show that the authors are intimately familiar with the analysis of processes important to the inorganic chemical industry . . . Will serve predominately undergraduate students or engineers studying industrial stoichiometry from the analysis of process operations and a variety of case problems." *Carl Hammer.*

Science, Oct. 22, 1954, p.659. ¾ col.

"Retains the purpose and pedagogic viewpoint of the original version . . . The book is directed toward plant operating personnel and students just beginning their study of chemical technology. Knowledge of calculus and advanced chemistry is not necessary. The book is well written, but the reader's impression of its clarity and continuity will probably be determined largely by his reaction to the case method of instruction. In particular, some teachers of chemical engineering will feel that the evolution of separate cases obscures general principles and encourages memorization of distinct techniques. Other teachers who have used the original edition successfully will welcome the expanded coverage of the second." *Robert R. Rothfus.*

Leyson, Burr W.

Man, rockets and space. 188p. 1954. Dutton, New York, $3.50.

American journal of physics, Oct. 1954, p.500. ⅔ col.

"The volume is well supplied with a three-page table of contents, an index, and a glossary of technical terms . . . The illustrations are largely official Navy photographs and are excellent . . . In order to steer between the facts and errors in the text a reader must needs be a near expert to avoid confusion. The final enigma of the book is, why was it published?" *H. Rees Mitchell.*

Scientific monthly, Nov. 1954, p.341. ⅝ col.

"The author apparently has thrown together the material he collected from newspapers, Sunday supplements, and other similar sources, without exercising critical judgment on the appropriateness and the accuracy of the material. The result is a book full of mistakes and confusion." *H. S. Tsien.*

Lieuwen, Edwin.

Petroleum in Venezuela; a history. 160p. 1954. Univ. of California Press, Berkeley, Calif., $3.

Oil and gas journal, Oct. 4, 1954, p.175. ½ col.

"Essentially an outline history of oil in Venezuela, this book delves into the political and economic aspects underlying the development of Venezuela as the world's second-largest oil-producing nation . . . Those interested in getting a better perspective on the petroleum industry in Venezuela will find this book interesting and very informative reading."

Lillie, R. D.

Histopathologic technic and practical histochemistry. Ed.2, revised and enlarged. 501p. 1954. Blakiston, New York, $7.50.

United States armed forces medical journal, Oct. 1954, p.1555. ½ p.

"The book does present a remarkable amount of up-to-date information on histopathologic technic, including many new practical tables of data. It should find its greatest usefulness in the laboratories of well-trained and experienced tissue technicians and special research workers, rather than as a textbook or handbook for the use of beginning technicians." *Charles G. Bratenahl.*

Macfadyen, Kenneth A.

Small transformers and inductors. 237p. 1953. British Bk. Centre, Inc., 122 E. 55th St., New York, $7.50.

Electrical news and engineering, Oct. 15, 1954, p.122. ⅜ col.

"Written considerably on engineering level, the text nevertheless does presuppose a fundamental working knowledge of electricity and magnetism, as well as their associated mathematical notations . . . Not intended as a reference volume for the specialist but is meant rather for the practical technologist . . . Considered are such devices as radio type power transformers, audio transformers (including those carrying a dc component), instrument transformers, pulse transformers and considerable other miscellaneous items. On the whole, the book is well written and illustrated and is to be highly recommended."

Mann, Wilfred B.

Cyclotron. Ed.4. 118p. 1954. Wiley, New York, $2. (Methuen's monographs on physical subjects.)

Electronics, Oct. 1954, p.452. 1 col.

"A new edition of a book first published in 1940 . . . The fact that the book was originally written during a period when the designers of high-energy machines first began making great strides adds another facet to the interest with which this volume should be received—as an important contribution to the history of modern physics. That is not to say that the book is of historical interest only: an epilogue, added in 1953, manages to bring the reader up to date." *Charles Süsskind.*

Power engineering, Oct. 1954, p.132, 134. ⅜ col.

"This monograph, as an historical account written primarily about the 37-in cyclotron itself, can . . . not be outdated. Another chapter has been added, however, by way of an epilogue . . . Its purpose is merely to round out the account of this monograph and to indicate, briefly, how the hopes expressed by Lawrence in 1940 have come to be realized."

Review of scientific instruments, Aug. 1954, p.824. ⅞ col.

"Reader must realize that this work is only a vignette of cyclotron history seen at the Berkeley laboratory, and must be prepared to search further to learn about the modern cyclotron . . . The epilogue serves the purpose of bringing the Berkeley story up to date, but neglects completely the considerable developments of the standard cyclotron in the intervening years . . . It stands, by default, as the only existing publication of its type on this very important laboratory instrument." *M. Stanley Livingston.*

Manson, E. J.

Outline of chemistry; a summary for first year students; translated and revised from the Dutch by H. W. Turner. 150p. 1954. Blackie, London, 5s.

Chemical age, Sept. 18, 1954, p.583. ⅝ col.

"Some writers of text-books add a summary of the matter treated at the end of each chapter. This book is, as it were, a collection of such summaries from texts of inorganic, organic, physical and analytical chemistry. Accordingly, it consists of definitions, tabulated information, one-line statements of preparation methods followed by the equation, lists of properties and so on. There are no graphs or other illustrations . . . It is not possible to recommend this book to any particular class of student. In the reviewer's opinion it is better for lecturers to encourage students to compile a revision book of their own." *G. F.*

Marsden, C.

Solvents manual; with solubility chart. 430p. 1954. Cleaver-Hume, London, 70s. (Reinforced chart for laboratory wall, available separately, 12s.).

Chemical age, Sept. 25, 1954, p.676. ⅔ col.

"An appraisal of this book, which is far more exhaustive and far better organised than anything which has hitherto appeared, can be little more than a list of features. The physical characteristics and properties . . . source and manufacture, constitution of industrial grades, physiological properties, azeotropes, storage and handling, and manufacturers, are given for 221 different solvents . . . Should prove literally indispensable to a great number of chemists in a wide range of industries. The presentation is excellent, the format convenient, and the contents invaluable." *B. I.*

Mason, Brian, comp.

Literature of geology. 155p. 1953. American Museum of Natural History, New York, $2.

Science progress, Oct. 1954, p.732. ½ p.

"Set out in two main parts: a general section treating abstracts, bibliographies, glossaries, etc., together with selected references in specific fields; and a regional section in which are listed the official and other important serial publications of the various countries. Where appropriate, brief notes are given indicating the character and scope of the publication . . . Only those publications are included which deal solely with geological topics, while the publications of provincial or local societies are not listed . . . Provides the student and

research worker with a broad picture of the range of geological literature and a ready means of locating the information he requires. To those concerned with establishing or maintaining a geological library it will prove of especial value." *B. C. K.*

Maxwell, E. A.

Analytical calculus. 2v. 1954. Cambridge Univ. Press, London.

v.1. 165p. 15s. net.

v.2. 272p. 18s. net.

Science progress, Oct. 1954, p.708. 1 p.

"First two of four [volumes] which in the words of the author 'present the subject in such a way that the more exact treatment, when it comes, can follow by natural development, without being forced to return to a fresh beginning which is often felt to be both unnecessary and even pointless.' He states, that, while he has tried to keep the standard of discussion at a level which the mathematical specialist will appreciate, the needs of the scientist and engineer have not been forgotten . . . Both volumes are beautifully produced and contain many excellent examples. In the hands of a good teacher they will be of very great value, but the student who wishes to read the subject for the first time himself will often meet with difficulties, particularly in Vol. I." *N. M. H. L.*

Minnaert, M.

Nature of light and colour in the open air; translated from the Dutch by H. M. Kremer-Priest and revised by K. E. Brian-Jay. 362p. 1954. Dover, New York, $3.95.

Journal of chemical education, Oct. 1954, p.557. 11 l.

"Here are the subjects of environmental optics and physiological optics in popular form, written so that anyone who cares to look and think can observe and understand the curious, the beautiful, the bizarre and the spectacular phenomena that occur almost daily in our lives . . . Should be especially popular among boys who are interested in natural science." *John E. Tyler.*

Journal of the Optical Society of America, Oct. 1954, p.820. ⅔ col.

"American reprint of a book originally published in England in 1940 . . . The present reviewer is still of the opinion formed fourteen years ago that this is one of the most fascinating popular scientific books of all time . . . It is a popular book in the best European sense and demands that the reader be able to follow close reasoning and even upon occasion that he should know a certain amount of elementary trigonometry . . . Can be recommended without reserve to everybody who is a lover of the outdoors and particularly as a vacation book for scientific people." *W. E. K. Middleton.*

Sky and telescope, Sept. 1954, p.385. 1 col.

"Deals with the wealth of phenemona that can be studied without instrumental aid by any outdoors observer . . . Author is a well-known astronomer at the Utrecht Observatory who has made important contributions to photometry and solar physics . . . Originally appeared in Dutch. In 1940 a translation by H. M. Kremer-Priest was published in England . . . and few copies reached this country. This has now been reprinted, with original illustrations, and we are indeed fortunate to have this delightful and informative book generally available." *J. A.*

Molloy, Edward, and others, ed.

Electrical engineer's reference book. Ed.7, revised. 2184p. 1954. Newnes, London, 70s.

Mining electrical and mechanical engineer, Sept. 1954, p.127. ½ col.

"Now, as before, we have to give distinctive credit to the producers for combining a full treatise of old-established electrotechnics with the latest news of progressive developments and the innovations of advancement following modern research . . . Suffice it to say that this standard reference book continues to stand true to its title." *E. D. P.*

Molloy, Edward, & **Carr,** E., ed.

Chemical engineering instruments and control methods. 182p. 1954. Newnes, London, 21s.

Chemical age, Sept. 25, 1954, p.675. 1⅓ col.

"Divided into 12 sections, each written by an authoritative person, and the bias is towards the practical applications of automatic control rather than the theoretical implications . . . In some sections the text reads like a manufacturer's catalogue, but this is, perhaps, unavoidable. However, a large number of typographical errors seem to have escaped the proof readers . . . It is felt that rather too much space has been devoted to purely laboratory instruments and methods . . . but the book should prove to be an asset to technologists in the chemical industry. It is generously illustrated and an excellent index is provided." *J. W. Mullin.*

Chemical trade journal and chemical engineer, Oct. 1, 1954, p.896. ⅔ col.

"The principles and applications of the main types of instruments used in analysis and process control in the chemical and allied industries are covered in a series of chapters which, whilst making no claim to exhaustive treatment of their subject, do allow the reader with little or no acquaintance with the matter to make a preliminary appraisal of the value of the various instruments for his own purpose."

Morgenstern, Oskar, ed.

Economic activity analysis. 554p. 1954. Wiley, New York, $6.75.

Scientific American, Oct. 1954, p.93. ⅛ col.

"A collection of studies on the mathematical structure of economics . . . Morgenstern's review article gives an interesting account of the new period of economic analysis ushered in by the theory of games, linear programming, Monte Carlo techniques and high-speed computers. In Morgenstern's opinion these methods will revolutionize the social sciences."

Morisset, Paul, and others.

Chromium plating. 586p. 1954. Robert Draper, Ltd., Teddington, Middlesex, England, 78s. net.

Glass, Sept. 1954, p.429. ⅛ col.

"This comprehensive work deals with all types of electrodeposits and all aspects of the chromium plating industry. It includes a chapter on hard chromium plating of moulds for plastics and glass . . . Details are given

for surface preparation of moulds, electrodeposition and finishing."

Journal of metals, Nov. 1954, *section 1*, p.1180. ⅛ col.

"Purpose of the book is to supply useful information to the plater who wishes to learn the practical details involved in any of the many different chromium plating processes and sequences, as well as to the chemist engaged in routine testing and solution analysis, the foreman, the manager or superintendent, the student, research worker, and the engineer and designer . . . Text has been arranged for easy reference and extensive use has been made of graphic presentation."

Materials & methods, Oct. 1954, p.200, 202. ⅛ col.

"Designed to be of value to platers, chemists, managers, engineers and designers concerned with parts to be chromium plated, this work discusses all significant developments in the field to the end of 1953."

Sheet metal industries, Oct. 1954, p.880. 2⅛ col.

"The dangers of multiple authorship have . . . been avoided and the book presents an authoritative but readable account of the science and technology of the electrodeposition of chromium and of associated subjects which is unlikely to be superseded for some time . . . Most of the many aspects of the subject are fully expounded and the book is a long one, but the authors have supported the text by 425 references which are gathered together at the end . . . This is an important and reliable book which should immediately take its rightful place as the standard work." *G. E. Gardam.*

Nadelman, Alfred H., & **Galbraith,** M. J., ed.

Industrial lectures on paper and paper-board converting. 192p. 1954. Lockwood Trade Journal Co., 15 W. 47th St., New York, $5.

Pulp and paper magazine of Canada, Sept. 1954, p.105. ½ col.

"In this . . . book . . . are five lectures of an introductory nature; eleven on Packaging Products; two on Single Service Paperware; four on Business and Stationery Products; two on Personal and Household Products; six on Paper Products for Industrial Use; and a final lecture on 'Testing for the Paper Converter'. We don't know of anything like this book, and anyone in the paper conversion business will find it a good buy."

Newsom, Carroll, & **Eves,** Howard.

Introduction to college mathematics. Ed.2. 408p. 1954. Prentice-Hall, New York, $5.75. (Prentice-Hall mathematics series.)

Military engineer, Sept.-Oct. 1954, p.401. ⅛ col.

"In addition to clarification of many points in the original edition, contains a chapter on calculus and, in it, greater attention has been paid to the elements of statistics. New problems have been added and greater emphasis given to the evolution of mathematical ideas."

Nininger, Robert D.

Minerals for atomic energy. 347p. 1954. Van Nostrand, New York, $7.50.

Engineering and mining journal, Sept. 1954, p.138. ⅘ col.

"Mr. Nininger's . . . book on prospecting crystallizes an intimate knowledge of objectives of the U. S. Atomic Energy Commission to encourage prospecting for selected vital minerals, and gives ample evidence of an exhaustive research effort to educate the would-be prospector in the fundamentals of geology, mineralogy, public land laws etc. necessary to pursue an intelligent search for ore."

Journal of metals, Nov. 1954, *section 1*, p.1180. ⅓ col.

"A complete handbook to prospecting for atomic energy minerals . . . Describes what and where to look, tools and methods to use, and how to make a reliable evaluation of findings. Organization of the book is designed to make it useful to the untrained and professional geologist or prospector. Part I describes the minerals and mineral deposits that are sources and potential sources of uranium, thorium, and beryllium. Part II is a comprehensive survey of the various areas of the world with respect to their favorability for new deposits of atomic energy minerals, with particular attention to the U. S."

Novozhilov, V. V.

Foundations of the nonlinear theory of elasticity; translated from the first Russian edition by F. Bagemihl and others. 233p. 1953. Graylock Press, Rochester, N. Y., $4.

Quarterly of applied mathematics, Oct. 1954, p.320. ¼ p.

"First five chapters are concerned with the development of the kinematics of finite deformations and the derivation of 'stress-strain' relations, equations of motion and boundary conditions. The remaining two chapters discuss the problem of elastic stability and the deformation of flexible bodies from the standpoint of the theory developed in the earlier chapters. Much of the content of these two chapters is new to the reviewer and they form significant contributions to the subjects they discuss . . . Cannot be regarded as a comprehensive account of the present state of development of finite elasticity theory." *R. S. Rivlin.*

O'Donnell, John A., & **Grimaldi,** J. V.

Ground safety in aviation operations. 71p. 1954. New York Univ., Center for Safety Education, Div. of General Education, Washington Sq., New York, $1.

Automotive industries, Aug. 1, 1954, p.106. ⅛ col.

"Offers information on the protection of the public, ground handling of aircraft, ramp and field emergencies, ladders and workstands, handling cargo, automotive equipment maintenance and operation, servicing communication equipment, accident investigation methods, and safety committees and inspections. Safety supervisors, maintenance crews, cargo handlers, and all other ground personnel will find in this manual much of value to help them in their work. Flight personnel, who are concerned with safety on the ground as well as aloft, will also find it of great interest and value."

Palmer, Ralph S.

Mammal guide. 384p. 1954. Doubleday, New York, $4.95.

Natural history, Oct. 1954, p.340. ¾ col.

"A compact, pocket-size book with a concise text, with good illustrations . . . Has its greatest usefulness as a field manual and reference for identification wherever mammals are encountered. The treatment is by the larger natural groups in their systematic sequence, and the text is written for the layman . . . The data are organized under such heads as habitat, reproduction, habits, and economic status . . . It would help the reader if a few more titles for reference were given. After all, this book will often be just the introduction, and the reader will wish to go farther." *Harold E. Anthony.*

Perry, John H., ed.

Chemical business handbook. 1370p. 1954. McGraw, New York, $17.

Petroleum refiner, Sept. 1954, p.322. ⅛ col.

"A wide range of modern business management methods and practices, treated especially for their interest to the chemical and chemical engineering industries, are thoroughly covered in this new book in which 125 leading authorities discuss their fields of specialization."

Tappi, Oct. 1954, p.204A. ¼ col.

"Prepared in 20 sections by 124 contributors in the McGraw-Hill Chemical Engineering Series. It reflects the trend throughout industry of training technically trained men and junior executives for advancement in management through knowledge of a wide range of subjects . . . Although the book is prepared for the chemical industries the pulp and paper industry to a certain extent is considered to be in this category. For the young men in the industry this book should be of considerable value."

Peterson, Thurman Stewart.

Intermediate algebra for college students. Revised edition. 369p. 1954. Harper, New York, $3.25.

Science education, Oct. 1954, p.322. 8 l.

"Contains a thorough and complete presentation of 'elementary' algrebra [sic]. There are some 5,000 exercises for outside preparation, classwork, and review. Review exercises are found at the end of each chapter and answers to odd problems are included."

Powell, Sheppard T.

Water conditioning for industry. 548p. 1954. McGraw, New York, $9.

Food engineering, Oct. 1954, p.240. ⅛ col.

"Specific methods and apparatus are described . . . in detail, with complete information on design features, control, installation, and operation . . . Contains a review of the most modern types of deaeration and evaporation equipment, treatment of water in recirculating systems, silica removal, and acidizing of equipment to remove deposits . . . Illustrated with charts and graphs, the book is indexed and includes an appendix of useful data."

Plant, Nov. 1954, p.33. ⅛ col.

"Efficient water-conditioning methods—simple and complex—are described in detail . . . Practical water-conditioning guide for plant and process engineers."

Raisglid, William.

Better tool cribs. 152p. 1954. Industrial Press, New York, $4.

Machinery (New York), Sept. 1954, p.262. ¾ col.

"Lay-out of a complete tool crib is taken up in step-by-step fashion to show how maximum benefits can be derived from proper location of the various pieces of storage equipment and the tools and materials located therein. The smallest details of how to store tools and materials—and how to maintain proper control over these items—are thoroughly covered . . . Numerous halftone illustrations and line diagrams, in addition to several tables, should be of practical value either in setting up a new tool crib or improving an existing one."

Read, John.

Humour and humanism in chemistry. 388p. 1953. British Bk. Centre, Inc., 122 E. 55th St., New York, $4.50.

American scientist, Oct. 1954, p.672, 674. 2 col. including another review.

"The author continues the story he began in his earlier work [*Prelude to Chemistry*], and he has given us a book which is erudite, witty, urbane, and one which truly lives up to its title of being both humorous and humanistic. The first five chapters deal with alchemy, then come two chapters on the transition from alchemy to *chymistry* during the seventeenth and eighteenth centuries. The remainder of the book, about three-fifths, deals with the history of modern chemistry in a delightfully anecdotal fashion . . . Every teacher of chemistry and every chemical-afterdinner speaker should own a copy of this book." *Morris C. Leikind.*

Riddle, Edward H.

Monomeric acrylic esters. 221p. 1954. Reinhold, New York, $5.

Journal of metals, Nov. 1954, *section 1,* p.1180. ⅛ col.

"Provides up-to-date information on commercially available acrylate and methacrylate esters . . . Begins with a brief history of acrylic monomers and polymers, including the processes formerly and now in use in preparation of monomeric acrylic esters. Physical properties of both the technical grades and purified materials are then presented, with methods of removing inhibitors, explosive limits, toxicity, and facilities for unloading and storage of monomers."

Modern plastics, Nov. 1954, p.180. ⅓ col.

"Designed to provide a background of information to serve as a starting point and guide to those working with acrylate and methacrylate esters on a laboratory, pilot-plant, or commercial scale, this volume presents up-to-date technical information on the commercially available grades of both chemicals."

Plastics industry, Oct. 1954, p.31. ½ col.

"This valuable book provides a wealth of up-to-date information on commercially available acrylate and methacrylate esters . . . Recent advances are covered in all chapters, and particular attention is given to the latest theories of polymerization and copolymerization mechanisms involving monomeric acrylic esters. Abundant literature references as recent as 1954 are included."

Ridenour, Louis N., ed.

Modern physics for the engineer. 499p. 1954. McGraw, New York, $7.50.

Journal of metals, Nov. 1954, *section 1,* p.1180. ⅛ col.

"Comprises a collection of lectures delivered to an extension course at the University of California . . . during the year 1952-53. The editor collected the lectures under three categories. Part I, the Laws of Nature, covers physics in its narrow definition. Part II, Man's Physical Environment, discusses the application of physical laws and techniques of investigation, to the study of the universe, of the earth, and of the air. Part III deals with the application of physics to that branch of engineering known as modern electronics."

Petroleum refiner, Oct. 1954, p.162. ⅓ col.

"Each chapter . . . is written by a recognized authority in the field that he treats. Together, the chapters represent a treatment of physical topics which is neither a collection of monographs for the specialist nor a popular account for the uniformed [sic] but rather something in between. The approach assumes a general familiarity with the methods and results of physical science but no specialized knowledge of the subjects treated."

Rothman, Stephen.

Physiology and biochemistry of the skin. 741p. 1954. Univ. of Chicago Press, Chicago, $19.50.

Drug and cosmetic industry, Oct. 1954, p.542. ⅓ col.

"First to deal with all aspects of the physiological functions and biochemical processes of the skin. Both as a definitive reference work and as a stimulant to further research, it is unique. Discussed in detail are the physical properties of the skin . . . all pertinent data concerning sweat secretion . . . the excretion of fatty substances . . . the various chemical constituents of the skin . . . Has a special chapter on the physiology, biochemistry, and pathology of the keratinization process . . . Other special chapters deal with the physiology of cutaneous circulation, the sensory functions of the skin, the biology of epidermal cells, hair growth, nutritional influences, the pathophysiology of blister formation, and the skin's delivery of carbon dioxide to the atmosphere."

Routh, Joseph I.

Fundamentals of inorganic, organic and biological chemistry. Ed.3, revised. 418p. 1954. Saunders, Philadelphia, $4.

American journal of nursing, Oct. 1954, p.1273. ⅓ col.

"The revision of this text has brought it up to date; it includes the latest developments in the application of atomic energy to medicine. Other recently developed therapeutic agents such as ACTH and cortisone have been incorporated in the proper chapters . . . Entire section on organic chemistry has been thoroughly revised and a more clear-cut presentation is the result . . . Style and print is free-flowing and easy to read." *Marie D. Logan.*

Routh, Joseph I.

Laboratory manual of chemistry. Ed.3. 109p. 1954. Saunders, Philadelphia, $1.75.

American journal of nursing, Oct. 1954, p.1273. ⅓ col.

"The laboratory manual which accompanies the book entitled, *Fundamentals of Inorganic and Biological Chemistry* [sic] should meet with the approval of most students and instructors . . . Experiments are simple, to the point, and do not require too elaborate an outlay of equipment." *Marie D. Logan.*

Say, Maurice G., ed.

Magnetic amplifiers and saturable reactors. 199p. 1954. Newnes, London, 21s. (Electrical engineering progress series.)

Mining electrical and mechanical engineer, Sept. 1954, p.127. ⅝ col.

"Although the several chapters vary greatly in difficulty when read in succession, the work is very well written. At the ends of the chapters, over seventy references to published articles are given. The provision of a collected list of symbols and their meanings would aid the reader, if such could be added in future editions . . . The physicist—and electrical engineer—graduates are the types of readers best equipped for deriving benefit from this book which is reasonably priced." *W. I. P.*

Seelye, Elwyn E.

Data book for civil engineers. Ed.2, revised and enlarged. v.3: Field practice. 394p. 1954. Wiley, New York, $7.50.

Engineering and contract record, Sept. 1954, p.115, 167. ⅝ col.

"Its aims are to furnish the field engineer or inspector with sufficient data to enable him to perform his duties even when cut off from other references and, at the same time, to provide him with a degree of background knowledge . . . Material is arranged for maximum convenience and accessibility. Each section opens with comprehensive lists of the items to be checked in any given job. These are followed by detailed instructions for the procedures involved and discussions relating to the background."

Journal of the American Water Works Association, Sept. 1954, p.52 P&R. ⅓ col.

"Much of the material is directed toward helping inspectors check on the progress of construction work. There is also some coverage of administrative detail, sources of job power, much on surveying, and soil mechanics . . . Continues to be a useful volume."

Mines magazine, Oct. 1954, p.57. ⅛ col.

"Over 100 pages are devoted to surveying methods and practice as well as engineering tables. 10 pages of index insure easy reference to subject. A very useful book for civil engineers and inspectors of construction work."

Severns, William H., and others.

Steam, air and gas power. Ed.5. 502p. 1954. Wiley, New York, $6.50.

Heating and ventilating, Nov. 1954, p.164. ⅓ col.

"Fundamental material of earlier editions have been revised to make it more useful for study and reference, and to keep up with the change brought on through the intervening years, a large amount of new material has been added . . . Intended to be used as a text for basic courses in heat power, theory, practice and equipment."

Heating, piping & air conditioning, Nov. 1954, p.278. ⅛ col.

TECHNICAL BOOK REVIEW INDEX

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"Revised from earlier editions with a shift in emphasis to reflect trends in current engineering practice. Among the additions are new chapters on gas turbines and mechanical refrigeration, the scope of the section on air compressors now includes centrifugal and axial-flow types, specific heat information has been added, and combustion of oils and gases has augmented the chapter on fuel and combustion."

Plant, Nov. 1954, p.33. ⅛ col.

"Contruction, application and performance data of modern heat-power plant equipment are presented in a concise and readable manner . . . Numerous effective illustrations have been incorporated into the 'up-to-date' text along with an extensive list of problems and answers, and helpful illustrative examples."

Shapiro, Ascher H.

Dynamics and thermodynamics of compressible fluid flow. v.2. 651-1185p. 1954. Ronald, New York, $16.

Industrial laboratories, Nov. 1954, p.23. ⅝ col. including another review.

"This second section contains a subject index to the whole work (about 2500 entries; there is no author index) but a table of its own contents only. It does not seem to be self-contained because it uses the theory of characteristics from volume I, and occasionally refers to other parts of this volume . . . Volume II treats, three-dimensional supersonic, hypersonic, mixed, and unsteady one-dimensional flows, and its last chapter presents the boundary-layer theory . . . Can be used as a text for courses at different levels . . . and as a handbook which may lead the expert to a highly specialized paper."

Petroleum refiner, Oct. 1954, p.162. ¼ col.

"Makes available to engineers and applied mechanicians an up-to-date and comprehensive treatment of compressible fluid mechanics . . . Bases its discussion on a combination of theoretical treatment and empirical results . . . Provides a practical reference source directly useful for engineering purposes. The analytical developments comprise two types of treatments: those leading to design methods and those leading to exemplary methods."

Product engineering, Nov. 1954, p.338, 340. ¼ col.

"Contains material of interest to aeronautical engineers, mechanical engineers, chemical engineers, applied physicists, and applied mechanicians . . . Discussions are based on a combination of physical reasoning, theoretical treatment, and empirical results, with the basic objective of making a book of practical value for engineering purposes. All important results have been reduced to chart form."

Shaw, F. S.

Introduction to relaxation methods. 396p. 1953. Dover, New York, $5.50.

Quarterly of applied mathematics, Oct. 1954, p.319. ½ p.

"Presents an easily read account of how to solve problems by the Relaxation Method . . . It is the reviewer's belief that a moderate amount of discussion of physical significance would have increased the readability and understandability of the book. Anyone wishing to learn the relaxation method in order to solve problems in this way when appropriate would do well to study this book and complete the examples used by the author." *Howard W. Emmons.*

Shumway, Waldo, & **Adamstone, F. B.**

Introduction to vertebrate embryology. Ed.5. 390p. 1954. Wiley, New York, $6.

Quarterly review of biology, Sept. 1954, p.273. 1⅝ col.

"The major part of the revision . . . was carried out by Adamstone. He has retained the major features of the fourth edition, including the effective use of the comparative approach . . . On the whole . . . the fifth edition does not measure up to the standard set by the fourth, for in the revision a number of errors has been added or perpetuated . . . In my judgment the fifth edition . . . is far less critical than the fourth edition of the same text. Hence it is not to be recommended." *James D. Ebert.*

Smith, Stanley Parker.

Problems in electrical engineering with answers. Ed.6. 342p. 1954. Constable, London, 18s. net.

Electrical journal, Oct. 8, 1954, p.1145. ⅛ col.

"Over 1 800 problems are set out, with the answers given in parenthesis, illustrating or depending on definite principles in electrical engineering. The data and the problems have been kept as practical as possible, so that the time spent in working out the examples will be of direct use to students in their future careers . . . A detailed index provides easy reference to the group of problems required . . . Problems cover the range of requirements for university students from First to Final year, and for National Certificate studies. Provision is also made for the needs of Post-Graduate students, and for the engineer in practice."

Sonneborn, Ralph, and others.

Fiberglas reinforced plastics. 240p. 1954. Reinhold, New York, $4.50.

American machinist, Oct. 11, 1954, p.276, 278. ½ col.

"Because the use of glass-fiber reinforcements must wait for enough knowledge of the products possible, this book could be said to be a sort of forerunner of wider acceptance of the products described. Certainly there are not many producers today who get the full benefits of FRP (Fiberglas Reinforced Plastics). Learning what is told here will help along the wider adoption of these new materials."

Modern plastics, Oct. 1954, p.184. ⅜ col.

"Designed to be a reference guide to those well versed in the subject and a general text to those who wish to become acquainted with reinforced plastics, the work represents the first effort to consolidate the knowledge accumulated by the reinforced plastics industry . . . Discussion is descriptive and evaluative, rather than of the how-to-do-it type."

Plastics industry, Nov. 1954, p.31. ½ col.

"This valuable new book offers the first complete treatment ever published on the subject of reinforced plastics . . . Of special interest are two chapters contributed by leading authorities in engineering research. The first, written by Professor A. G. H. Dietz . . . discusses the theory and fundamental concepts of reinforced plastics. The second, prepared by A. S. Heyser

. . . deals with design from the viewpoint of the structural engineer . . . A wealth of information never before available."

Product engineering, Oct. 1954, p.324, 326. ⅔ col.

"A complete description of the manufacturing processes for Fiberglas reinforced plastics with an analysis of each is included as well as a similar treatment for such secondary operations as machining, fastening and painting. A chapter on inspection and testing tends to round out the production process for reinforced plastics. Considerable coverage is given to designs and applications . . . Interesting for design engineers and executives in the materials industry."

Soroka, Walter W.

Analog methods in computation and simulation. 390p. 1954. McGraw, New York, $7.50.

Control engineering, Oct. 1954, p.91. ⅝ col.

"The first book that organizes and classifies all of the important methods of analog computation . . . Describes mechanical, electromechanical, electrical, and electronic analog components that perform basic mathematical operations. These components are then combined to solve the various kinds of engineering equations. The treatment is fundamental and develops the theoretical basis for each approach. A thorough bibliography references important papers on analog computations . . . This book will probably become a standard reference for the control engineer."

Product engineering, Oct. 1954, p.322, 324. ⅝ col.

"In this book, the analogies between systems is developed on the basis of similarity of equations. Thus, it serves as a guide to those interested in solving complex engineering problems with the help of automatic computing machines."

Starling, Sydney G.

Electricity and magnetism for degree students. Ed.8. 650p. 1953. Longmans, New York, $5.75.

Proceedings of the Physical Society, Oct. 1, 1954, *section B,* p.798. ¾ p.

"Content of this work is well known . . . Makes no claim to specialization in any part, but supplies a firm basis for those who may later become specialists . . . The difficulty of choice and extent of new additions must have been great . . . On the whole no serious adverse criticism will be made on this account . . . A number of more recent topics have been touched upon, and readers are directed to fuller accounts by means of references." *H. T. Flint.*

Steiner, Kalman.

Oilburners. Revised edition. 502p. 1954. Heating Pub., Inc., 2 W. 45th St., New York, $5.

Fueloil & oil heat, Sept. 1954, p.165. 1⅛ col.

"Author has revised the text and illustrations to keep the book up-to-date and has added important revisions, including changes in the data which appear in the Introduction and wider coverage of electronic relays and systems in Chapter 12 . . . Steiner refers to 'Oilburners' as a presentation of 'the technology of an important division of American industry' and not as a duplication of technical matter which can be found elsewhere. As such . . . [it] can be recommended as an excellent reference book to the industry and as a text for imparting knowledge to industry personnel of the many facets of fueloil and oilburning."

Swift, Raymond W., & **French,** C. E.

Energy metabolism and nutrition. 264p. 1954. Scarecrow, Washington, D. C., $5.75.

Journal of home economics, Oct. 1954, p.609. ½ col.

"The material in this textbook was developed in directing advanced students in the department of animal nutrition at Pennsylvania State University. Although the text is well organized and well written, it contains little descriptive detail and would be too technical for any student not extensively trained in chemistry and physiology. The authors have selected and brought together in a very concise presentation the underlying principles and methods of energy metabolism with a section on experimentation in this field . . . The text is too succinct and selective to serve as a comprehensive reference on the subject of energy metabolism." *Orrea F. Pye.*

Science, Oct. 29, 1954, p.706. 1⅝ col.

"The authors are senior members of the recently organized Department of Animal Nutrition, The Pennsylvania State University . . . The major value of this book . . . consists in bringing together the research methods and aims of three successive research groups—Armsby *et al.,* Forbes *et al.,* and the authors—at the same institution although of a different name. The major defect is the failure to give the student a historical perspective to a massive landmark in the history of nutrition research in this country . . . Other parts of the book furnish condensed reviews of the scattered literature on nutrition and related subjects." *Samuel Brody.*

Symon, Keith R.

Mechanics. 358p. 1953. Addison-Wesley Press, New York, $7.50.

American scientist, Oct. 1954, p.671. 1 col.

"A textbook for the physics student at the intermediate level. The preface suggests that it is suitable for either juniors or seniors, but it is hardly adequate for the latter . . . There is . . . little that is remarkable in the choice of topics, and no need for professor or librarian to add this book to crowded shelves: the book must be judged on its style and its appeal to the student as a textbook. The author writes well and lucidly in a pleasant informal manner. To illustrate the theory he sometimes uses examples from engineering . . . to give the student tangible applications, although these are always restricted to their algebraic, never numerical, solutions. Additional mathematics beyond basic calculus is introduced as needed . . . Vector notation is introduced in chapter 3 but thereafter is used sparingly. The textbook fulfills its author's purpose admirably, and should be welcomed by the student." *F. R. E. Crossley.*

Technology Instrument Corporation.

TIC potentiometer handbook. 207p. The Corporation, 531 Main St., Acton, Mass., $2.

Control engineering, Sept. 1954, p.121. ⅜ col.

"This loose-leaf handbook gives a detailed treatment of nearly all phases of potentiometer theory, design, performance, and application . . . Well illustrated, and includes within the same binder a catalog of Technology Instrument Corporation's potentiometers . . . Section 13 is a bibliography of the books, periodicals, papers, and specifications that comprise the principle [sic] literature in the field of precision potentiometers."

Thornbury, William D.

Principles of geomorphology. 618p. 1954. Wiley, New York, $8.

American Petroleum Institute quarterly, Autumn 1954, p.39. ⅜ col.

"This modern study of the origin, development, and characteristics of land forms—although following the basic tenets of the American school of geomorphology . . . represents a rather definite departure from traditional appraisals of the subject. Long-held concepts are examined critically, appraised in the light of recent studies, and revised somewhat."

Economic geology, Nov. 1954, p.794. ⅛ p.

"Of the 22 chapters, the first three deal with background, fundamental concepts, and analysis of geomorphic processes. The last two are called 'tools of the geomorphologist' and 'applied geomorphology.' The intermediate chapters carry about the same headings as a textbook of physical geology . . . Well written, nicely printed and includes excellently chosen and illustrative photographs. It will probably win first place among geomorphology textbooks."

Military engineer, Nov.-Dec. 1954, p.477. 6 l.

"A new study of the characteristics, origin and development of land forms in which the fundamental concepts of geomorphology which can best be applied in actual situations are examined."

Tucker, John D., & Wilkinson, D. F.

Radio. v.2. 252p. 1954. English Universities Press, London, 10s. 6d.

***Engineer*, Sept. 3, 1954, p.326. ½ col.**

"Written to cover the syllabus of the City and Guilds of London Institute examinations . . . Follows the style of the first volume, to which there are some cross references, but is more advanced throughout . . . Of value to students preparing for a number of examinations in radio engineering."

Turner, Newman.

Fertility farming. 264p. Faber, London, 18s.

Agricultural Institute review, Sept.-Oct. 1954, p.50. 1 col.

"Compares orthodox methods of plant and animal culture with the 'organic' methods used on the author's farm, emphasizing the advantages of the latter. His 'fertility farming' emphasizes grassland farming but, in addition, would substitute surface tillage for ploughing, compost for artificial fertilizers, and herbal weeds for germicidal remedies in livestock diseases . . . Anyone interested in a fresh look at farm practices should read this book. It takes an enthusiastic but practical approach to 'nature's methods' and will be found useful by practical farmers as well as those in farm management or extension." *D. W. Carr.*

Usher, Abbott Payson.

A history of mechanical inventions. Revised edition. 450p. 1954. Harvard Univ. Press, Cambridge, Mass., $9.

Science, Oct. 22, 1954, p.656. ¾ col.

"The first four chapters present entirely new material. Their titles . . . are 'The place of technology in economic history'; 'Historical analysis of social change'; 'The particular system of events'; and 'The emergence of novelty in thought and action.' They are designed to provide the reader with a systematic statement of the philosophic and psychological theory that guided the author in the preparation of the descriptive and narrative chapters. As such, they should also be of interest and assistance to historians engaged in other fields. But they are not easy reading, and many readers will early be inclined to take the author's word for it and jump to the juicier chapters that follow. These later chapters present to the student of mechanical inventions an intriguing story, with a wealth of detail, supplemented by many drawings and richly documented. They include the mechanical equipment of pre-Christian antiquity; water wheels and windmills; water clocks, mechanical clocks and their development into instruments of precision; printing; textile machinery; machine tools and quantity production. With the exception of the last chapter on the production and distribution of power, the historical account ends at 1850 and usually earlier." *Lyman J. Briggs.*

Wakefield, Ernest H., ed.

Nuclear reactors for industry and universities. 94p. 1954. Instruments Pub., Pittsburgh, $2.

Consulting engineer, Oct. 1954, p.83. ½ col.

"This book might well be a first step in the indoctrination of those seeking information on nuclear reactors. But for those who have been following the field with any diligence this book may prove to be a re-hash of things long past and abandoned."

Control engineering, Oct. 1954, p.88. ⅜ col.

"The stated purpose of this book is to help universities and industries make decisions about the installation of reactors. Nationally known authorities have written the chapters. Certain chapters should be especially interesting to control engineers. For example, besides the description and classification of reactor types, there are chapters on radio-activity measurement, reactor control, and instrumentation for experiments."

Electrical world, Oct. 18, 1954, p.228. ⅛ col.

"Eight nuclear experts have contributed a chapter a piece to demonstrate that nuclear reactors can be built so cheaply and safely that many universities and industrial laboratories should acquire them for research purposes. The types and their relative advantages are recorded with advice as to selection. Control and measurements are discussed along with protective measures and costs."

Science, Oct. 22, 1954, p.661. 1 col.

"This brief book has three very timely and worthwhile objectives: (i) to call attention to the fact that small research-type reactors are now at such a stage of development that any large university or industry should be able to afford one; (ii) to stimulate and encourage the widespread use and further development of research reactors by universities and industry;

and (iii) to present in compact form information that will 'aid universities and industries in making decisions about the installation of reactors' . . . It is important at this time that extensive use and improvement of research reactors be stimulated. This book represents a timely step in the right direction, but falls short of meeting the need. It will perhaps best serve by stimulating the interest of nontechnical people." *R. D. Huntoon.*

Wallace, T.

Diagnosis of mineral deficiencies in plants by visual symptoms. Ed.2. 107p. 1953. Chemical Pub. Co., Inc., 212 Fifth Ave., New York, $10.

Garden journal of the New York Botanical Garden, Sept.-Oct. 1954, p.165. ½ col.

"Written primarily for the use of those concerned with nutrient problems of crop production. The most important feature is the collection of 312 plates in color of plants showing symptoms of nutrient deficiency of all except sulfur of the twelve chemical elements ordinarily classed as essential mineral nutrients. In some cases, symptoms of nutrient toxicity are shown. Vegetable and grain crop plants are well represented. Fewer fruit crop plants are shown . . . Provides a worthwhile addition to the growing number of photographs in color of plants exhibiting symptoms of nutrient deficiency." *W. Rei Robbins.*

Walsh, John W. T.

Textbook of illuminating engineering; intermediate grade. Ed.2. 202p. Pitman, London, 28s. net.

Electrical journal, Oct. 8, 1954, p.1144. ⅓ col.

"This book, written at the request of the Illuminating Engineering Society, has been specially designed to assist students preparing for the examination in Illuminating Engineering (Intermediate Grade) of the City and Guilds of London Institute. It does not deal with 'mathematics to the standard of a second-year course' and 'light and electricity to Intermediate B.Sc. standard', as it is assumed that the reader has already covered that ground . . . Pleasantly produced, the book can be thoroughly recommended for its purpose."

Walton, John.

Introduction to the study of fossil plants. Ed.2. 201p. 1953. Black, London, 30s. net.

Nature, Sept. 18, 1954, p.528. ⅔ col.

"When so many sections . . . have . . . been brought up to date within the limits of the publication, it is indeed to be regretted that space could not have been found to revise the chapters on the Cordaitales, Coniferales and Cycadales; for in these groups some of the most significant of the recent additions to palæobotanical knowledge have been made through the work of Florin, Harris and others. It is to be hoped that in any future edition the account of these groups may be amplified, for the existing text-books on gymnosperms are notoriously out of date in this respect."

Ware, Lawrence A., & Town, G. R.

Electrical transients. 222p. 1954. Macmillan, New York, $4.75.

Wireless engineer, Sept. 1954, p.251. ⅞ col.

"Whole essence of the book is how to solve problems on transients in electrical circuits by means of the Laplace transform . . . As an introduction to the transform the book is quite a good one and it certainly provides one of the easiest paths available to those who wish to learn how to use it." *W. T. C.*

Welch, Henry.

Principles and practice of antibiotic therapy. 699p. 1954. Blakiston, New York, $12.

Journal of the American Pharmaceutical Association, scientific edition, Oct. 1954, p.639. ¼ col.

"The author of this comprehensive work is eminently qualified to discuss the field of antibiotics . . . Conveniently divided into two parts, the first of which is concerned with the isolation and development, the antimicrobial activity and the pharmacology of the antibiotics, while the second part is devoted to the clinical uses and sub-divided according to disease entities. Each chapter contains a selected bibliography and there is a satisfactory index . . . Can be recommended as the most up to date and complete volume on antibiotics at present available in the English language."

Whitby, G. S., and others, ed.

Synthetic rubber. 1044p. 1954. Wiley, New York, $18.

Petroleum refiner, Nov. 1954, p.240. ¼ col.

"The authors review the manufacture of the necessary raw materials, their conversion into synthetic rubber, and the industrial utilization of the product . . . Volume also includes the postwar developments on the chemistry and physical chemistry of synthetic rubber."

Rubber age, Oct. 1954, p.132. 1 col.

"First truly exhaustive and authoritative account of synthetic rubber . . . Actually draws together the knowledge and experience of thirty-eight authorities, each of whom has special familiarity with the aspects on which he writes . . . Fulfills a real need in the technical literature and will serve as an excellent reference works [sic] for a long time to come . . . Has complete author and subject indexes, and the editorial board is to be commended for the tremendous work of compilation."

Whitehead, T. N.

Design and use of instruments and accurate mechanism. 283p. 1954. Dover, New York, $3.95.

Industrial laboratories, Nov. 1954, p.26. ⅛ col.

"A reprint (with minor corrections) of a book published in 1934. Its first half is devoted to a nonmathematical discussion of errors . . . The second half applies this error theory to the design of typical mechanisms . . . Some passages are strongly polemical, many are argumentative and bear on the very foundations of knowledge; a provocative book."

Science, Oct. 22, 1954, p.658. 7 l.

"Contains a new preface and minor corrections by the author. Instrumental errors are discussed in part I and the theory of instrumental errors that is developed in part I is applied, in part II, to a variety of typical mechanisms. Selected so as to illustrate principles, all examples are fully explained."

Wiig, Edwin O., and others.

Semimicro qualitative analysis. 238p.

1954. Van Nostrand, New York, $3.25.

Analytical chemistry, Sept. 1954, p.28A. ⅔ col.

"Very desirable for use in a sophomore course in qualitative analysis, where the aim can also be to use the excellent chapters on theory involved . . . Might also be used for chemistry major or advanced groups of students in the last half or third of the freshman year." *William E. Caldwell.*

Science, Oct. 22, 1954, p.658. ¾ col.

"An almost completely rewritten version of the original Flagg and Line *Semimicro Qualitative Analysis* . . . This textbook seems to be appropriate for either the latter portion of a first-year college course or for a separate course in the sophomore year. A section on special procedures for ferro- and high-aluminum alloys may be used to provide additional analytic experience with several cations not usually included in the qualitative analytic scheme." *Lloyd E. Malm.*

Willis, J., ed.

Deep drawing. 134p. 1954. Butterworth & Co., (Publishers), Ltd., 88 Kingsway, London, W.C.2, 25s.

Engineer, Oct. 1, 1954, p.457. 1½ col.

"Abstracted from original reports of work carried out and, if a criticism might be offered, it does appear that on certain of the graphs and plots of results the notations obviously refer to items which do not appear in the book, but are in the original reports. Altogether this book is to be recommended to those seriously interested in the fundamentals of deep drawing, such as research workers and industrial investigators . . . Finally, the reader is urged to bear in mind that the work of seventeen years is covered by this book. It must therefore be obvious that, in a book of this size, only the briefest coverage can be given to such a large volume of experimental work. The author is to be complimented in having done it so admirably."

Iron and coal trades review, Sept. 10, 1954, p.639. 1 col.

"It must not be assumed that this is a text book of formulae for the draughtsman. Much useful information for the guidance of designers of deep drawing press tools will however be found in its pages. From the results of the investigations and experiments reported, a much better understanding of the mechanics of deep drawing will be acquired and, it is hoped, applied to everyday problems . . . Recommended to those of an enquiring turn of mind for in it will be found much to encourage them in their own investigations." *J. A. G.*

Withey, Morton O., & **Washa,** G. W.

Materials of construction. 870p. 1954. Wiley, New York, $9.

Iron and steel engineer, Oct. 1954, p.211. ⅛ col.

"A practical, time-saving, one volume compilation of mechanical properties and uses of major engineering materials. Causes of defects and variations and how they may be discovered are discussed . . . Covers testing equipment as well as such materials as wood, stone, clay products, cement, metals (particularly iron and steels), non ferrous metals and alloys . . . May be used as a reference book for engineers and is also suitable for class instruction."

Journal of metals, Nov. 1954, *section 1*, p.1180. 11 l.

"Covers sources, manufacture, and fabrication of the principal construction materials . . . Also presents carefully selected information covering more important mechanical and physical properties, and influence of various factors on these properties. A full chapter is devoted to concrete aggregates and another section deals with nondestructive testing."

Wyllie, James.

Farm management. 249p. 1953. British Bk. Service, Toronto, $5. (Agricultural series.)

Agricultural Institute review, Sept.-Oct. 1954, p.50. ⅛ col.

"Although . . . based on farm practices in Britain, the basic principles outlined by the author are equally applicable to mixed farming conditions in Eastern Canada . . . Mr. Wyllie has written this book with a clear and pleasing style which makes it intelligible to both farmers and academic students of farm management." *S. H. Lane.*

Zwikker, Cornelis.

Physical properties of solid materials. 300p. 1954. Interscience Publishers, New York, $8.75.

Philosophical magazine, Sept. 1954, p.996. ⅓ p.

"A somewhat unusual book, in that it covers an exceptionally wide field in quite a short space, and not in a particularly elementary or popular way . . . The reviewer cannot help wondering for whom it is intended. Probably it would make good introductory reading for a scientist in some other branch, a chemist, a nuclear physicist or an engineer, who needed to know something of the physics of the solid state and wanted to find out in general what was being done, and what he should follow up further." *N. F. M.*

Zworykin, V. K., & **Morton,** G. A.

Television; the electronics of image transmission in color and monochrome. Ed.2. 1037p. 1954. Wiley, New York, $17.50.

Electrical news and engineering, Oct. 15, 1954, p.123. ⅛ col.

"A special feature of the new edition is its detailed discussion of colour television. Its consideration of the theoretical and practical aspects is detailed enough to give a sound working understanding of this new and important development. Throughout the book, the problems are presented from the standpoint of the fundamental physical processes involved. The technical coverage is broad, with detailed considerations of the practical construction and operation of television devices."

Tele-tech & electronic industries, Oct. 1954, p.60. ½ col.

"Nearly every chapter has been rewritten . . . Throughout . . . the problems of television are presented from the standpoint of the fundamental physical processes involved. At the same time technical coverage is broad, with detailed considerations of the practical construction and operation of television devices. The careful analyses offered by the authors permits the reader to establish limits of performance for both ideal and practical television tubes and equipment."

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Errata in Volume 20

The following entries (accurately copied from the reviews) are incorrect, and have been corrected in making the Author Index.

For **"Hausen,** Morris H., and others" (p.48) read **Hansen,** Morris H., and others.

For **"Hurkle,** Rolland T." (p.10) read **Hinkle,** Rolland T.

For **"Sloley,** W. R., & **Coulchard,** W. H." (p.18) read **Sloley,** R. W., & **Coulthard,** W. H.

For **"Swinton,** W. E." (p.18) read **Pinner,** Erna.

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